Substitute for form 1449A/PTO
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)

PTO/SB/66A(1
Approved for use through 10/31/2020, OMB 93/
US Paint & Trissensk Office, U.S. DEPARTMENT OF COSM
en of Information unless it contains a veild OMS control nu omplete if Known Application Number 10/081,818 Filing Date February 20, 2002 First Named Inventor Eldridge, Jerome **Group Art Unit** 2818 Ho, Tu-Tu **Examiner Name** 

Sheet 1 of 8

Attorney Docket No: 1303.045US1

|                       |                     |                     | TENT DOCUMENTS                                  |                               |
|-----------------------|---------------------|---------------------|---|-------------------------------|
| Examiner<br>Initial * | USP Document Number | Publication<br>Date | Name of Patentee or Applicant of cited Document | Filing Date<br>If Appropriate |
|                       | US-20010017369A1    | 08/30/2001          | Iwasaki, Shingo , et al.                        | 01/04/2001                    |
|                       | US-20010040430A1    | 11/15/2001          | Ito, Hiroshi , et al.                           | 08/07/1998                    |
|                       | US-20020002216A1    | 01/03/2002          | Tooley, Patricia A.                             | 04/11/2001                    |
|                       | US-20020004276A1    | 01/10/2002          | Ahn, Kie Y., et al.                             | 08/30/2001                    |
|                       | US-20020004277A1    | 01/10/2002          | Ahn, Kie Y., et al.                             | 08/30/2001                    |
|                       | US-20020051859A1    | 05/02/2002          | lida, Tetsuya , et al.                          | 10/29/2001                    |
|                       | US-20020058578A1    | 05/16/2002          | Shindo, Ayako                                   | 11/29/2000                    |
|                       | US-20020076070A1    | 06/20/2002          | Yoshikawa, Takamasa , et al.                    | 12/11/2001                    |
|                       | US-20020110973A1    | 08/15/2002          | Liou, J. W., et al.                             | 02/13/2001                    |
|                       | US-20020110983A1    | 08/15/2002          | Liu, C. C., et al.                              | 02/09/2001                    |
|                       | US-20020113261A1    | 05/02/2002          | Iwasaki, Tomio, et al.                          | 08/30/2001                    |
|                       | US-20020117963A1    | 08/29/2002          | Chuman, Takashi , et al.                        | 12/28/2001                    |
|                       | US-20020125490A1    | 09/12/2002          | Chuman, Takashi , et al.                        | 12/28/2001                    |
|                       | US-20020130338A1    | 09/19/2002          | Ahn, Kie Y., et al.                             | 03/15/2001                    |
|                       | US-20020155688A1    | 10/24/2002          | Ahn, Kie Y.                                     | 04/20/2001                    |
|                       | US-20020172799A1    | 11/21/2002          | Subramanian, Ramesh                             | 05/16/2001                    |
|                       | US-20030026697A1    | 02/06/2003          | Subramanian, Ramesh, et al.                     | 08/02/2001                    |
|                       | US-20030048745A1    | 03/13/2003          | Yoshikawa, Takamasa , et al.                    | 01/05/2001                    |
|                       | US-20030067046A1    | 04/10/2003          | Iwasaki, Tomio , et al.                         | 11/18/2002                    |
|                       | US-20030130127A1    | 07/10/2003          | Hentges, Patrick J., et al.                     | 01/09/2002                    |
|                       | US-20030142569A1    | 07/31/2003          | Forbes, Leonard                                 | 01/30/2002                    |
|                       | US-20030162399A1    | 08/28/2003          | Singh, Rajiv K., et al.                         | 10/01/2002                    |
|                       | US-20040038554A1    | 02/26/2004          | Ahn, Kie Y.                                     | 08/21/2002                    |
|                       | US-20040043541A1    | 03/04/2004          | Ahn, Kie Y., et al.                             | 08/29/2002                    |
|                       | US-20040066484A1    | 04/08/2004          | Tokailin, Hiroshi, et al.                       | 06/13/2003                    |
|                       | US-20040110348A1    | 06/10/2004          | Ahn, Kie Y., et al.                             | 12/04/2002                    |
|                       | US-20040110391A1    | 06/10/2004          | Ahn, K. Y., et al.                              | 12/04/2002                    |
|                       | US-20040144980A1    | 07/29/2004          | Ahn, Kie Y., et al.                             | 01/29/2003                    |
|                       | US-20040164357A1    | 08/26/2004          | Ahn, Kie Y., et al.                             | 02/27/2004                    |
|                       | US-20040164365A1    | 08/26/2004          | Ahn, Kie Y., et al.                             | 02/27/2004                    |
|                       | US-20040169453A1    | 09/02/2004          | Ahn, Kie Y., et al.                             | 02/26/2004                    |
|                       | US-20040175882A1    | 09/09/2004          | Ahn, Kie Y., et al.                             | 03/04/2003                    |
|                       | US-20040178439A1    | 09/16/2004          | Ahn, Kie Y., et al.                             | 03/24/2004                    |
|                       | US-20040183108A1    | 09/23/2004          | Ahn, Kie Y.                                     | 01/27/2004                    |
|                       | US-20040185654A1    | 09/23/2004          | Ahn, Kie Y.                                     | 01/30/2004                    |
|                       | US-20040189175A1    | 09/30/2004          | Ahn, Kie Y., et al.                             | 03/29/2004                    |
|                       | US-20040214399A1    | 10/28/2004          | Ahn, Kie Y., et al.                             | 04/22/2003                    |
|                       | US-20040219783A1    | 11/04/2004          | Ahn, Kie Y., et al.                             | 05/25/2004                    |
|                       | US-20040222476A1    | 11/11/2004          | Ahn, K. Y., et al.                              | 06/09/2004                    |
| 7                     | US-20040248398A1    | 12/09/2004          | Ahn, Kie Y., et al.                             | 07/12/2004                    |

EXAMINER

1/2002, OMB 651-0031

Substitute for form 1449A/PTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use as many sheets as necessary)

 Complete F Known
 10/081,818

 Application Number
 10/081,818

 Filling Date
 February 20, 2002

 First Named Inventor
 Eldridge, Jerome

 Group Art Unit
 2818

 Examiner Name
 Ho, Tu-Tu

Sheet 2 of 8

Attorney Docket No: 1303.045US1

| US PATENT DOCUMENTS   |                     |                     |   |                               |  |
|-----------------------|---------------------|---------------------|---|-------------------------------|--|
| Examiner<br>Initial * | USP Document Number | Publication<br>Date | Name of Patentee or Applicant of cited Document | Filing Date<br>If Appropriate |  |
|                       | US-20040251815A1    | 12/16/2004          | Tokailin, Hiroshi , et al.                      | 06/13/2003                    |  |
|                       | US-20040251841A1    | 12/16/2004          | Negishi, Nobuyasu, et al.                       | 05/24/2004                    |  |
|                       | US-20040262700A1    | 12/30/2004          | Ahn, Kie Y., et al.                             | 06/24/2003                    |  |
|                       | US-20040266217A1    | 12/30/2004          | Kim, K., et al.                                 | 06/23/2004                    |  |
|                       | US-20050009370A1    | 01/13/2005          | Ahn, Kie Y.                                     | 08/04/2004                    |  |
|                       | US-20050020017A1    | 01/27/2005          | Ahn, Kie Y., et al.                             | 06/24/2003                    |  |
|                       | US-20050023584A1    | 02/03/2005          | Derderian, G. J., et al.                        | 02/03/2005                    |  |
|                       | US-20050023594A1    | 02/03/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050023624A1    | 02/03/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050023625A1    | 02/03/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050023627A1    | 02/03/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050026374A1    | 02/03/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050029547A1    | 02/10/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050029604A1    | 02/21/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050029605A1    | 02/10/2005          | Ahn, K Y., et al.                               | 08/31/2004                    |  |
|                       | US-20050030825A1    | 02/10/2005          | Ahn, K. Y.                                      | 08/31/2004                    |  |
|                       | US-20050032292A1    | 02/10/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20050034662A1    | 02/17/2005          | Ahn, K. Y.                                      | 08/31/2004                    |  |
|                       | US-20050037563A1    | 02/17/2005          | Ahn, Kie Y.                                     | 08/31/2004                    |  |
|                       | US-20050054165A1    | 03/10/2005          | Ahn, K. Y., et al.                              | 03/31/2003                    |  |
|                       | US-20050077519A1    | 04/14/2005          | Ahn, Kie, et al.                                | 10/10/2003                    |  |
|                       | US-20050124109A1    | 06/09/2005          | Quevado-Lopez, Manuel A., et al.                | 12/03/2003                    |  |
|                       | US-20050124174A1    | 06/09/2005          | Ahn, K. Y., et al.                              | 01/07/2005                    |  |
|                       | US-20050124175A1    | 06/09/2005          | Ahn, Kie, et al.                                | 01/13/2005                    |  |
|                       | US-20050138262A1    | 06/23/2005          | Forbes, Leonard                                 | 12/18/2003                    |  |
|                       | US-20050145957A1    | 07/07/2005          | Ahn, K. Y., et al.                              | 02/16/2005                    |  |
|                       | US-20050158973A1    | 07/21/2005          | Ahn, K. Y., et al.                              | 01/14/2005                    |  |
|                       | US-20050164521A1    | 07/28/2005          | Ahn, Kie Y., et al.                             | 03/21/2005                    |  |
|                       | US-20050227442A1    | 10/13/2005          | Ahn, K. Y., et al.                              | 06/09/2005                    |  |
|                       | US-20050277256A1    | 12/15/2005          | Ahn, K. Y., et al.                              | 07/11/2005                    |  |
|                       | US-20050280067A1    | 12/22/2005          | Ahn, K. Y., et al.                              | 08/26/2005                    |  |
|                       | US-20060000412A1    | 01/05/2006          | Ahn, K. Y., et al.                              | 08/29/2005                    |  |
|                       | US-20060001151A1    | 01/05/2006          | Ahn, K. Y., et al.                              | 08/26/2005                    |  |
|                       | US-20060003517A1    | 01/05/2006          | Ahn, K. Y., et al.                              | 08/29/2005                    |  |
|                       | US-20060024975A1    | 02/02/2006          | Ahn, Kie Y., et al.                             | 08/02/2004                    |  |
|                       | US-20060035405A1    | 02/16/2006          | Park, H., et al.                                | 07/28/2005                    |  |
|                       | US-20060043492A1    | 03/02/2006          | Ahn, K. Y., et al.                              | 08/29/2005                    |  |
|                       | US-20060043504A1    | 03/02/2006          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-20060046505A1    | 03/02/2006          | Ahn, K. Y., et al.                              | 08/26/2004                    |  |
|                       | US-20060046522A1    | 03/02/2006          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |

EXAMINER

Approved for use through 1603 (2008, 0MB 651-KS Penerit & Trademic Office: U.S. DEPARTMENT OF COMME Under the Preparation Reduction Act of 1935, no persons are required to respond to a collection of information unless it contains a wait OMB makes and

Substitute for form 1449A/PTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use as many sheets as necessary)

| Complete if Known    |                   |
|----------------------|-------------------|
| Application Number   | 10/081,818        |
| Filing Date          | February 20, 2002 |
| First Named Inventor | Eldridge, Jerome  |
| Group Art Unit       | 2818              |
| Examiner Name        | Ho, Tu-Tu         |

Sheet 3 of 8

Attorney Docket No: 1303.045US1

| US PATENT DOCUMENTS  Examiner USP Document Number   Publication   Name of Patentee or Applicant of cited Document   Fil |                       |            |  |                               |  |
|---|-----------------------|------------|--|-------------------------------|--|
| Initial *   | oor position realises | Date       | realise of Patentee of Applicant of cited Document | Filing Date<br>If Appropriate |  |
|   | US-20060054943A1      | 03/16/2006 | Li, Hong-Jyh , et al.                              | 09/14/2004                    |  |
|   | US-20060128168A1      | 06/15/2006 | Ahn, K. Y., et al.                                 | 12/13/2004                    |  |
|   | US-20060148180A1      | 07/06/2006 | Ahn, K. Y., et al.                                 | 01/05/2005                    |  |
|   | US-20060176645A1      | 08/10/2006 | Ahn, K. Y., et al.                                 | 02/08/2005                    |  |
|   | US-20060183272A1      | 08/17/2006 | Ahn, K. Y., et al.                                 | 02/15/2005                    |  |
|   | US-20060189154A1      | 08/24/2006 | Ahn, K. Y., et al.                                 | 02/23/2005                    |  |
|   | US-20060223337A1      | 10/05/2006 | Ahn, K. Y., et al.                                 | 03/29/2005                    |  |
|   | US-20060244082A1      | 11/02/2006 | Ahn, K. Y., et al.                                 | 04/28/2005                    |  |
|   | US-20060281330A1      | 12/14/2006 | Ahn, K. Y., et al.                                 | 06/14/2005                    |  |
|   | US-20070020835A1      | 01/25/2007 | Ahn, K. Y., et al.                                 | 09/28/2006                    |  |
|   | US-20070048926A1      | 03/01/2007 | Ahn, K Y.  | 08/31/2005                    |  |
|   | US-20070048953A1      | 03/01/2007 | Gealy, Dan, et al.                                 | 08/30/2005                    |  |
|   | US-20070048989A1      | 03/01/2007 | Ahn, Kie Y., et al.                                | 08/30/2005                    |  |
|   | US-20070049023A1      | 03/01/2007 | Ahn, Kie Y., et al.                                | 08/29/2005                    |  |
|   | US-20070049054A1      | 03/01/2007 | Ahn, Kie Y., et al.                                | 08/31/2005                    |  |
|   | US-20070134931A1      | 06/14/2007 | Ahn, K. Y., et al.                                 | 12/08/2005                    |  |
|   | US-20070158765A1      | 07/12/2007 | Ahn, K. Y., et al.                                 | 01/10/2006                    |  |
|   | US-20080014689A1      | 01/17/2008 | Cleavelin, C. R., et al.                           | 07/07/2006                    |  |
|   | US-20080032424A1      | 02/07/2008 | Ahn, K. Y., et al.                                 | 08/03/2006                    |  |
|   | US-20080042211A1      | 02/21/2008 | Bhattacharyya, A., et al.                          | 08/18/2006                    |  |
|   | US-20080057659A1      | 03/06/2008 | Forbes, Leonard                                    | 08/31/2006                    |  |
|   | US-20080057690A1      | 03/06/2008 | Forbes, Leonard                                    | 08/31/2006                    |  |
|   | US-20080087945A1      | 04/17/2008 | Forbes, L., et al.                                 | 08/31/2006                    |  |
|   | US-3,738,817          | 06/12/1973 | Benjamin, J. S.                                    | 03/01/1971                    |  |
|   | US-3,833,386          | 09/03/1974 | Wood, Louis L., et al.                             | 07/07/1972                    |  |
|   | US-3,903,232          | 09/02/1975 | Wood, Louis L., et al.                             | 02/19/1974                    |  |
|   | US-3,926,568          | 12/16/1975 | Benjamin, John S., et al.                          | 08/28/1974                    |  |
|   | US-3,959,191          | 05/25/1976 | Kehr, Clifton L., et al.                           | 12/30/1974                    |  |
|   | US-4,017,322          | 04/12/1977 | Kawai, Motochika, et al.                           | 06/09/1975                    |  |
|   | US-4,137,200          | 01/30/1979 | Wood, Louis L., et al.                             | 06/10/1977                    |  |
|   | US-4,293,679          | 10/06/1981 | Cogliano, Joseph A.                                | 05/27/1980                    |  |
|   | US-4,302,620          | 11/24/1981 | Chu, Chin-Chiun                                    | 10/29/1980                    |  |
|   | US-4,358,397          | 11/09/1982 | Chu, Chin C.                                       | 12/31/1980                    |  |
|   | US-4,403,083          | 09/06/1983 | Marans, Nelson S., et al.                          | 08/31/1982                    |  |
|   | US-4,940,636          | 07/10/1990 | Brock, Lieselotte, et al.                          | 07/21/1988                    |  |
|   | US-4,961,004          | 10/02/1990 | Bryan, Philip S., et al.                           | 11/16/1989                    |  |
|   | US-4,963,753          | 10/16/1990 | Bryan, Philip S., et al.                           | 10/16/1989                    |  |
|   | US-4,963,754          | 10/16/1990 | Bryan, Philip S., et al.                           | 11/16/1989                    |  |
|   | US-4,967,085          | 10/30/1990 | Bryan, Philip S., et al.                           | 11/16/1989                    |  |
|   | US-4,967,087          | 10/30/1990 | Bryan, Philip S., et al.                           | 11/16/1989                    |  |

EXAMINER

Substitute for form 1449A/PTO
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)

PTOLEMENTS (10 Approved for use through 10 Approved for Institute (10 **Application Number** 10/081,818 Filing Date February 20, 2002 Eldridge, Jerome First Named Inventor Group Art Unit 2818 **Examiner Name** Ho, Tu-Tu

Sheet 4 of 8

Attorney Docket No: 1303.045US1

| Examiner  | USP Document Number | Publication | Name of Patentee or Applicant of cited Document | Filing Date    |
|-----------|---------------------|-------------|---|----------------|
| Initial * |                     | Date        |   | If Appropriate |
|           | US-4,972,086        | 11/20/1990  | Bryan, Philip S., et al.                        | 11/16/1989     |
|           | US-4,972,516        | 11/20/1990  | Bryan, Philip S., et al.                        | 11/16/1989     |
|           | US-4,975,014        | 12/04/1990  | Rufin, Antonio C., et al.                       | 09/01/1989     |
|           | US-4,975,588        | 12/04/1990  | Bryan, Philip S., et al.                        | 11/16/1989     |
|           | US-4,980,559        | 12/25/1990  | Bryan, Philip S., et al.                        | 11/15/1989     |
|           | US-4,980,560        | 12/25/1990  | Bryan, Philip S., et al.                        | 11/16/1989     |
|           | US-4,983,847        | 01/08/1991  | Bryan, Philip S., et al.                        | 01/16/1989     |
|           | US-4,988,880        | 01/29/1991  | Bryan, Philip S., et al.                        | 02/03/1989     |
|           | US-4,990,282        | 02/05/1991  | Bryan, Philip S., et al.                        | 06/27/1990     |
|           | US-4,992,205        | 02/12/1991  | Bryan, Philip S., et al.                        | 06/27/1990     |
|           | US-4,994,205        | 02/19/1991  | Bryan, Philip S., et al.                        | 06/29/1990     |
|           | US-4,996,003        | 02/26/1991  | Bryan, Philip S., et al.                        | 06/29/1990     |
|           | US-5,008,034        | 04/16/1991  | Bryan, Philip S., et al.                        | 06/29/1990     |
|           | US-5,017,791        | 05/21/1991  | Bryan, Philip S., et al.                        | 11/16/1989     |
|           | US-5,075,536        | 12/24/1991  | Towe, Carey A., et al.                          | 05/17/1990     |
|           | US-5,084,606        | 01/28/1992  | Bailey, John M., et al.                         | 05/17/1990     |
|           | US-5,095,218        | 03/10/1992  | Bryan, Philip S., et al.                        | 07/20/1990     |
|           | US-5,619,450        | 04/08/1997  | Takeguchi, T.                                   | 05/15/1995     |
|           | US-5,962,959        | 10/05/1999  | lwasaki, Shingo , et al.                        | 03/03/1998     |
|           | US-5,990,605        | 11/23/1999  | Yoshikawa, Takamasa , et al.                    | 03/20/1998     |
|           | US-5,998,528        | 12/07/1999  | Tsipursky, Semeon , et al.                      | 02/02/1998     |
|           | US-6,023,124        | 02/08/2000  | Chuman, Takashi , et al.                        | 02/27/1998     |
|           | US-6,023,125        | 02/08/2000  | Yoshikawa, T., et al.                           | 03/09/1998     |
|           | US-6,066,922        | 05/23/2000  | Iwasaki, Shingo                                 | 08/07/1998     |
|           | US-6,087,695        | 07/11/2000  | Chen, C.  | 08/20/1999     |
|           | US-6,103,419        | 08/15/2000  | Saidi, M. Y., et al.                            | 09/06/1996     |
|           | US-6,125,062        | 09/26/2000  | Ahn, Kie, et al.                                | 08/26/1998     |
|           | US-6,130,503        | 10/10/2000  | Negishi, Nobuyasu , et al.                      | 02/27/1998     |
|           | US-6,137,025        | 10/24/2000  | Ebbinghaus, Bartley B., et al.                  | 06/22/1999     |
|           | US-6,141,260        | 10/31/2000  | Ahn, Kie, et al.                                | 08/27/1998     |
|           | US-6,144,155        | 11/07/2000  | Yoshikawa, Takamasa , et al.                    | 05/14/1998     |
|           | US-6,147,443        | 11/14/2000  | Yoshikawa, Takamasa , et al.                    | 05/14/1998     |
|           | US-6,166,487        | 12/26/2000  | Negishi, Nobuyasu , et al.                      | 03/07/2000     |
|           | US-6,184,612        | 02/06/2001  | Negishi, Nobuyasu , et al.                      | 08/07/1998     |
|           | US-6,259,198        | 07/10/2001  | Yanagisawa, Shuuchi , et al.                    | 12/23/1998     |
|           | US-6,274,937        | 08/14/2001  | Ahn, Kie Y., et al.                             | 02/01/1999     |
|           | US-6,278,230        | 08/21/2001  | Yoshizawa, Atsushi , et al.                     | 08/07/1998     |
|           | US-6,281,042        | 08/28/2001  | Ahn, K. Y., et al.                              | 08/31/1998     |
|           | US-6,285,123        | 09/04/2001  | Yamada, Takashi , et al.                        | 09/10/1999     |
|           | US-6,297,103        | 10/02/2001  | Ahn, Kie, et al.                                | 02/28/2000     |

EXAMINER

Substitute for form 1449A/PTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use as meny sheets as necessary)

Sheet 5 of 8

Attorney Docket No: 1303.045US1

|                       |                     | US PA               | TENT DOCUMENTS                                  |                               |
|-----------------------|---------------------|---------------------|---|-------------------------------|
| Examiner<br>Initial * | USP Document Number | Publication<br>Date | Name of Patentee or Applicant of cited Document | Filing Date<br>If Appropriate |
|                       | US-6,313,518        | 11/06/2001          | Ahn, K., et al.                                 | 03/02/2000                    |
|                       | US-6,316,873        | 11/13/2001          | Ito, Hiroshi , et al.                           | 08/07/1998                    |
|                       | US-6,320,091        | 11/20/2001          | Ebbinghaus, Bartley B., et al.                  | 06/22/1999                    |
|                       | US-6,350,704        | 02/26/2002          | Ahn, K., et al.                                 | 10/14/1997                    |
|                       | US-6,388,376        | 05/14/2002          | Negishi, Nobuyasu, et al.                       | 08/05/1999                    |
|                       | US-6,400,070        | 06/04/2002          | Yamada, Takashi , et al.                        | 08/07/1998                    |
|                       | US-6,404,124        | 06/11/2002          | Sakemura, Kazuto , et al.                       | 07/28/1999                    |
|                       | US-6,404,681        | 06/11/2002          | Hirano, Y.                                      | 10/31/2000                    |
|                       | US-6,429,237        | 08/06/2002          | Tooley, Patricia A.                             | 04/11/2001                    |
|                       | US-6,454,912        | 09/24/2002          | Ahn, Kie Y., et al.                             | 03/15/2001                    |
|                       | US-6,472,803        | 10/29/2002          | Yoshizawa, Atsushi , et al.                     | 08/06/1999                    |
|                       | US-6,489,648        | 12/03/2002          | Iwasaki, Tomio, et al.                          | 08/30/2001                    |
|                       | US-6,492,288        | 12/10/2002          | Shindo, Ayako                                   | 11/29/2000                    |
|                       | US-6,495,436        | 12/17/2002          | Ahn, Kie Y., et al.                             | 02/09/2001                    |
|                       | US-6,514,820        | 02/04/2003          | Ahn, Kie Y., et al.                             | 08/29/2001                    |
|                       | US-6,514,828        | 02/04/2003          | Ahn, Kie Y., et al.                             | 04/20/2001                    |
|                       | US-6,534,420        | 03/18/2003          | Ahn, Kie Y., et al.                             | 07/18/2001                    |
|                       | US-6,544,846        | 04/08/2003          | Ahn, Kie Y., et al.                             | 04/15/2002                    |
|                       | US-6,552,383        | 04/22/2003          | Ahn, Kie Y., et al.                             | 05/11/2001                    |
|                       | US-6,570,248        | 05/27/2003          | Ahn, Kie Y., et al.                             | 08/08/2001                    |
|                       | US-6,580,124        | 06/17/2003          | Cleeves, James M., et al.                       | 08/14/2000                    |
|                       | US-6,586,792        | 07/01/2003          | Ahn, Kie Y., et al.                             | 03/15/2001                    |
|                       | US-6,602,053        | 08/05/2003          | Subramaniam, Ramesh, et al.                     | 08/02/2001                    |
|                       | US-6,608,378        | 08/19/2003          | Ahn, Kie Y., et al.                             | 08/26/2002                    |
|                       | US-6,641,887        | 11/04/2003          | Lida, Tetsuya, et al.                           | 10/29/2001                    |
|                       | US-6,661,058        | 12/09/2003          | Ahn, Kie Y., et al.                             | 02/11/2002                    |
|                       | US-6,700,132        | 03/02/2004          | Chuman, Takashi , et al.                        | 12/28/2001                    |
|                       | US-6,710,465        | 03/23/2004          | Song, S., et al.                                | 01/16/2003                    |
|                       | US-6,710,538        | 03/23/2004          | Ahn, Kie Y., et al.                             | 08/26/1998                    |
|                       | US-6,720,216        | 04/13/2004          | Forbes, Leonard                                 | 08/29/2002                    |
|                       | US-6,720,221        | 04/13/2004          | Ahn, Kie, et al.                                | 08/30/2001                    |
|                       | US-6,744,063        | 06/01/2004          | Yoshikawa, Takamasa , et al.                    | 01/05/2001                    |
|                       | US-6,756,298        | 06/29/2004          | Ahn, Kie Y., et al.                             | 08/01/2002                    |
|                       | US-6,759,151        | 07/06/2004          | Lee, Kang N.                                    | 05/22/2002                    |
|                       | US-6,767,795        | 07/27/2004          | Ahn, Kie Y., et al.                             | 01/17/2002                    |
|                       | US-6,774,050        | 08/10/2004          | Ahn, Kie, et al.                                | 01/31/2003                    |
|                       | US-6,787,413        | 09/07/2004          | Ahn, Kie Y.                                     | 06/17/2002                    |
|                       | US-6,787,992        | 09/07/2004          | Chuman, Takashi , et al.                        | 12/28/2001                    |
|                       | US-6,790,791        | 09/14/2004          | Ahn, Kie Y., et al.                             | 08/15/2002                    |
|                       | US-6,794,709        | 08/21/2004          | Ahn, Kie Y., et al.                             | 08/30/2001                    |

EXAMINER

Substitute for form 1448APTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use as meny sheets as necessary)

 Complete if Known
 10/081,818

 Application Number
 10/081,818

 Filling Date
 February 20, 2002

 First Named Inventor
 Eldridge, Jerome

 Group Art Unit
 2818

 Examiner Name
 Ho, Tu-Tu

Sheet 6 of 8

Attorney Docket No: 1303.045US1

| US PATENT DOCUMENTS   |                     |                     |   |                               |  |
|-----------------------|---------------------|---------------------|---|-------------------------------|--|
| Examiner<br>Initial * | USP Document Number | Publication<br>Date | Name of Patentee or Applicant of cited Document | Filing Date<br>If Appropriate |  |
|                       | US-6,803,326        | 10/12/2004          | Ahn, Kie Y., et al.                             | 07/20/2001                    |  |
|                       | US-6,812,100        | 11/02/2004          | Ahn, K. Y., et al.                              | 03/13/2002                    |  |
|                       | US-6,828,045        | 12/07/2004          | Tokailin, Hiroshi , et al.                      | 06/13/2003                    |  |
|                       | US-6,833,285        | 12/21/2004          | Ahn, Kie Y., et al.                             | 09/12/2000                    |  |
|                       | US-6,833,308        | 12/21/2004          | Ahn, K. Y., et al.                              | 08/30/2001                    |  |
|                       | US-6,835,111        | 12/28/2004          | Ahn, Kie Y., et al.                             | 11/26/2001                    |  |
|                       | US-6,838,404        | 01/04/2005          | Hentges, Patrick J., et al.                     | 01/09/2002                    |  |
|                       | US-6,844,203        | 01/18/2005          | Ahn, Kie Y., et al.                             | 08/30/2001                    |  |
|                       | US-6,846,574        | 01/25/2005          | Subramanian, Ramesh                             | 05/16/2001                    |  |
|                       | US-6,852,167        | 02/08/2005          | Ahn, K. Y.                                      | 03/01/2001                    |  |
|                       | US-6,858,120        | 02/22/2005          | Ahn, Kie, et al.                                | 08/09/2002                    |  |
|                       | US-6,858,444        | 02/22/2005          | Ahn, K. Y., et al.                              | 06/20/2003                    |  |
|                       | US-6,858,865        | 02/22/2005          | Ahn, Kie, et al.                                | 02/23/2001                    |  |
|                       | US-6,884,739        | 04/26/2005          | Ahn, K. Y., et al.                              | 08/15/2002                    |  |
|                       | US-6,893,984        | 05/17/2005          | Ahn, Kie Y., et al.                             | 02/20/2002                    |  |
|                       | US-6,900,122        | 05/31/2005          | Ahn, Kie Y., et al.                             | 12/20/2001                    |  |
|                       | US-6,914,800        | 07/05/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-6,919,266        | 07/19/2005          | Ahn, Kie Y., et al.                             | 07/24/2001                    |  |
|                       | US-6,921,702        | 07/26/2005          | Ahn, Kie Y., et al.                             | 07/30/2002                    |  |
|                       | US-6,930,346        | 08/16/2005          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-6,953,730        | 10/11/2005          | Ahn, K. Y., et al.                              | 12/20/2001                    |  |
|                       | US-6,958,302        | 10/25/2005          | Ahn, K. Y., et al.                              | 12/04/2002                    |  |
|                       | US-6,960,538        | 11/01/2005          | Ahn, Kie Y., et al.                             | 08/21/2002                    |  |
|                       | US-6,970,053        | 11/29/2005          | Akram, S., et al.                               | 05/22/2003                    |  |
|                       | US-6,979,855        | 12/27/2005          | Ahn, K. Y., et al.                              | 01/27/2004                    |  |
|                       | US-6,989,573        | 01/24/2006          | Ahn, Kie Y., et al.                             | 10/10/2003                    |  |
|                       | US-7,026,694        | 04/11/2006          | Ahn, K. Y., et al.                              | 08/31/2004                    |  |
|                       | US-7,045,430        | 05/16/2006          | Ahn, K. Y., et al.                              | 05/02/2002                    |  |
|                       | US-7,049,192        | 05/23/2006          | Ahn, K. Y., et al.                              | 06/24/2003                    |  |
| - 1                   | US-7,064,058        | 06/20/2006          | Ahn, K. Y., et al.                              | 01/30/2004                    |  |
|                       | US-7,081,421        | 07/25/2006          | Ahn, K. Y., et al.                              | 08/26/2004                    |  |
|                       | US-7,084,078        | 08/01/2006          | Ahn, K. Y., et al.                              | 08/29/2002                    |  |
|                       | US-7,101,813        | 09/05/2006          | Ahn, k. y., et al.                              | 12/04/2002                    |  |
|                       | US-7,133,316        | 11/07/2006          | Lue, Hang-Ting                                  | 06/02/2004                    |  |
|                       | US-7,235,501        | 06/26/2007          | Ahn, K. Y., et al.                              | 12/13/2004                    |  |
|                       | US-7,365,027        | 04/29/2008          | Ahn, A. Y., et al.                              | 03/29/2005                    |  |
|                       | US-7,372,096        | 05/13/2008          | Forbes, L., et al.                              | 06/20/2006                    |  |
|                       | US-7,372,097        | 05/13/2008          | Forbes, L., et al.                              | 06/20/2006                    |  |
|                       | US-7,391,072        | 06/24/2008          | Forbes, L., et al.                              | 06/20/2006                    |  |

EXAMINER DATE CONSIDERED

T<sup>2</sup>

Approved for use through 1001/2002 CMB 816 US Platent Notes (In 1995, no persons are required to respond to a coffection of Informative Twee U.S. DEPARTMENT OF COM-

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)

Foreign Document No

Complete if Known 10/081,818 Application Number February 20, 2002 Filing Date First Named Inventor Eldridge, Jerome Group Art Unit 2818 **Examiner Name** Ho, Tu-Tu

Name of Patentee or Applicant of cited

Document

Examiner

Initials\*

Attorney Docket No: 1303.045US1 Sheet 7 of 8

FOREIGN PATENT DOCUMENTS

Publication Date

|                       | OTHE         | R DOCUMENTS NON PATENT LITERATURE DOCUMENTS   |                |
|-----------------------|--------------|---|----------------|
| Examiner<br>Initials* | Cite<br>No 1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposlum, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                       |              | AARIK, JAAN, "Atomic layer growth of epitaxial TiO2 thin films from TiCl4 and   |                |
|                       |              | H <sub>2</sub> O on alpha -Al <sub>2</sub> O <sub>3</sub> substrates", Journal of Crystal Growth, 242(1-2),   |                |
|                       |              | (2002),189-198  |                |
|                       |              | AARIK, JAAN, "Influence of substrate temperature on atomic layer growth and   |                |
|                       |              | properties of HfO <sub>2</sub> thin films", Thin Solid Films, 340(1-2), (1999),110-116  |                |
|                       |              | AARIK, JAAN, "Phase transformations in hafnium dioxide thin films grown by  |                |
|                       |              | atomic layer deposition at high temperatures", Applied Surface Science, 173(1-  |                |
|                       |              | 2), (March 2001),15-21  |                |
|                       |              | CHEN, F., "A study of mixtures of HfO <sub>2</sub> and TiO <sub>2</sub> as high-k gate dielectrics",  |                |
|                       |              | Microelectronic Engineering 72, (2004),263  |                |
|                       |              | CHEN, F., et al., "Hafnium Titanate as a High-K Gate Insulator",  |                |
|                       |              | Electrochemical Society Proceedings, Vol. 2004-01, (2004),278-285   |                |
|                       |              | CONLEY, J. F., "Atomic Layer Deposition of Hafnium Oxide Using Anhydrous  |                |
|                       | l            | Hafnium Nitrate", Electrochemical and Solid-State Letters, 5(5), (May 2002),C57-C59   |                |
|                       |              | DOMAGALA, R. F., et al., "The Pseudobinary Ti-ZrO <sub>2</sub> ", J. Am. Ceramic Soc.,  | -              |
|                       |              | Vol. 56, Paper first presented in 1970,(1973),584-587   |                |
|                       |              | FORBES, "HAFNIUM TANTALUM OXYNITRIDE HIGH-K DIELECTRIC AND  | <u> </u>       |
|                       |              | METAL GATES", U.S. Appln. Serial No. 11/515,114, filed August 31, 2005,   |                |
|                       | İ            | Attny docket no. 1303.185US1, client ref no 06-0073,  |                |
|                       |              | KIM, BYOUNG-YOUP, et al., "Comparison study for TiN films deposited from  |                |
|                       |              | different method: chemical vapor deposition and atomic layer deposition",   |                |
|                       |              | Mechanisms of Surface and Microstructure Evolution in Deposited Films and   |                |
|                       |              | Film Structures Symposium (Materials Research Society Symposium   |                |
|                       |              | Proceedings Vol.672), (2001),7.8.1-7.8.6  |                |
|                       |              | KUKLI, KAUPO, "Comparison of hafnium oxide films grown by atomic layer  |                |
|                       |              | deposition from iodide and chloride precursors", Thin Solid Films, 416,   |                |
|                       |              | (2002),72-79  |                |
|                       |              | LESKELA, M , "ALD precursor chemistry: Evolution and future challenges",  |                |
|                       |              | Journal de Physique IV (Proceedings), 9(8), (September 1999),837-852  |                |
|                       |              | NALWA, H. S., "Handbook of Thin Film Materials", Deposition and Processing  |                |
|                       |              | of thin Films, Vol. 1, San Diego : Academic Press,(2002),114-119  | -              |
|                       |              | ROBERTSON, JOHN, "Band offsets of wide-band-gap oxides and implications   |                |
|                       |              | for future electronic devices", <u>Journal of Vacuum Science &amp; Technology B:</u>  |                |
|                       |              | Microelectronics and Nanometer Structures, 18(3), (May 2000),1785-1791  |                |
|                       |              | RUH, ROBERT, et al., "Phase Relations and Thermal Expansion in the System   |                |
|                       |              | HfO2-TiO2", J. Am. Ceramic Soc., 59, (NovDec. 1976),495-499   | l              |

DATE CONSIDERED EXAMINER

PTO/SB/08A(10-01) Approved for use through 10/31/2002, OMB 651-0031

| Substitute for form 1449A/PTO   | Under the Pagework Roduction Act of 1995, no persons are required to respond to a collection of information unders it contains a valid OMB control number<br>Complete If Known |                   |  |  |
|---|--|-------------------|--|--|
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT<br>(Use as many sheets as necessary) | Application Number   | 10/081,818        |  |  |
|   | Filing Date  | February 20, 2002 |  |  |
|   | First Named Inventor   | Eldridge, Jerome  |  |  |
|   | Group Art Unit   | 2818              |  |  |
|   | Examiner Name  | Ho, Tu-Tu         |  |  |
| Sheet 8 of 8  | Attorney Docket No: 1  | 303.045US1        |  |  |

|                       | OTHE         | R DOCUMENTS NON PATENT LITERATURE DOCUMENTS   |                |
|-----------------------|--------------|---|----------------|
| Examiner<br>Initials* | Cite<br>No 1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                       |              | SNEH, OFER, "Thin film atomic layer deposition equipment for semiconductor processing", Thin Solid Films, 402(1-2), (2002),248-261  |                |
|                       |              | SUNTOLA, T., "Atomic Layer Epitaxy", <u>Handbook of Crystal Growth, 3; Thin Films of Epitaxy, Part B; Growth Mechanics and Dynamics</u> ,<br>Amsterdam,(1994),601-663   |                |
|                       |              | WILK, G. D., "High-K gate dielectrics: Current status and materials properties considerations", Journal of Applied Physics, 89(10), (May 2001),5243-5275  |                |